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Serving two masters

A H G Love

Annual Oration at the opening of the 1988–89 teaching session, Royal Victoria Hospital, delivered on 6 October 1988

The title that I have chosen for the 108th Oration, to open the 1988 teaching session, is not an excuse to indulge in a theological discourse — this is neither the time nor the place. Nor do I wish, as a joint appointment University staff member, to discuss the special arrangements in Belfast which accord such individuals a contract of employment with both the University and the Health Board. Such a discussion might suggest distinctions which do not exist in reality. There is a great unity of purpose shared by all members of staff in this Hospital. The three cardinal features of academic medicine — namely, patient care, teaching and research — are pursued with equal zeal and enthusiasm by both NHS and University employees alike. I am proud to say that University staff do not sit in isolated ivory towers but are busily involved in the day-to-day service provided by this Hospital. At the same time the NHS staff give generously of their time and energy in the education of each succeeding generation of students. The research profile of the hospital is not the prerogative of the academic. Much of the international reputation of this Hospital is based on a wide variety of excellent basic and clinical research pursued by Health Service and academic staff alike.

As a clinical scientist I might not be regarded as impartial in any examination of the difficulties posed by the pursuit of twin 'objectives of medicine' as a science and as an art. I have no doubt that we must continue to follow the true ideals of science in medicine as the quest after knowledge to conquer disease, and at the same time practise the art of medicine in the treatment of disease in our fellow men. It is perhaps paradoxical that it is the very success of science in medicine that should be one of the major causes of today's doctors' dilemma. Over the past 30 years or so the success of science in medicine has steadily expanded the scope for its practice. Large numbers of previously untreatable diseases have become treatable and this has inevitably led to a steadily rising demand for more and more forms of medical care. There is now emerging a conflict between the individual patient and the resources which are available for health care within a community. Society is now intensely interested in what we as professionals are doing — we are no longer only able to think of the individual patient — we must place our practice in the public arena. We have the patient and society as two masters to whom we must answer. It is these, apparently at times, conflicting perspectives of medicine that I wish to address.

Ideal medical care depends to a significant extent on the physician being the advocate of the patient. Yet there are many situations in which the physician must act as a double agent. For example, the physician may be forced to wear two hats

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when requested by an insurance company to judge the ability of one of his older patients to hold a driving licence. Assuming the patient is moderately impaired, and the answer could honestly be yes or no, should the physician's report favour the patient, or should the patient be forced to stop driving to protect the public and the insurance company? Of interest to us, in teaching hospitals such as this, is the balance between patient care and the interests of teaching and research. Patients, my own included, at times have been fatigued by too many undergraduate and postgraduate students and probably exposed to too many expensive tests and procedures. We must be grateful for the long-suffering attitude of our patients and strenuously preserve a proper balance of activity. It is, however, in the current state of cost containment as medical care rationing begins that we face the much more unpleasant prospect of addressing the potentially conflicting interests of the patient and society.

THE MEDICAL MODEL

Practitioners of medicine down the ages have subscribed to the Hippocratic Oath or one of its more recent Geneva or Sydney variants. The Oath embodies many of the best traditions of medicine and formulates how doctors should behave towards their patients. For the benefit of our students, I will refer to the following modern translation:[1]

> 'I swear by Apollo the healer, by Aesculapius, by Health and all the powers of healing, and call to witness all the gods and goddesses, that I may keep this Oath and Promise to the best of my ability and judgement.
>
> 'I will pay the same respect to my master in the Science as to my parents and share my life with him and pay all my debts to him. I will regard his sons as my brothers and teach them the Science, if they desire to learn it, without fee or contract.
>
> 'I will hand on precepts, lectures and all other learning to my sons, to those of my master and to those pupils duly apprenticed and sworn, and to none other.
>
> 'I will use my power to help the sick to the best of my ability and judgement; I will abstain from harming or wronging any man by it.
>
> 'I will not give a fatal draught to anyone if I am asked, nor will I suggest any such thing. Neither will I give a woman means to procure an abortion.
>
> 'I will be chaste and religious in my life and in my practice.
>
> 'I will not cut, even for the stone, but I will leave such procedure to the practitioners of that craft.
>
> 'Whenever I go into a house, I will go to help the sick and never with the intention of doing harm or injury. I will not abuse my position to indulge in sexual contacts with the bodies of women or of men, whether they be freemen or slaves.
>
> 'Whatever I see or hear, professionally or privately, which ought not to be divulged, I will keep secret and tell no one.
>
> 'If, therefore, I observe this Oath and do not violate it, may I prosper both in my life and in my profession, earning good repute among all men for all time. If I transgress and forswear this Oath, may my lot be otherwise'.

This encapsulates the concepts of the best possible practice of medicine for the individual patient. It hints at family but no further. The ancient seer had no doubt

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that this behaviour would receive the blessing of deity. I am sure that we could agree that such service to our fellow men would be accorded divine approbation — in that sense we are servants of the Almighty. It is the present day resource dimension, Mammon, if you like, which represents one of the demands of our second master. It is now being suggested that the principle on which medical practice is based, that one should do everything possible for the individual patient, is a luxury that we as a society can no longer afford. As more and more practices that may be beneficial to the individual but not necessarily to the interests of society are pursued, we risk reaching a point where the marginal gains to the individual threaten the welfare of the whole community. How best then can we in the present and foreseeable future act as the patient's advocate? I believe we can perform this role only if we are aware of the current pressures, the public perception and even criticism of medical practice.

It is perhaps not sufficiently realised that medical practice and the public perception of it has changed rapidly in a relatively short period of man's history. Not much more than two to three generations ago there was no such thing as a public expectation for doctors to do, or to be, anything other than what doctors had always been: professionals who were called in to attach particular names to particular illnesses, to provide reliable information about the natural history of the illness, so that the patient and family could have a fairly clear idea about what was happening or was about to happen; then stand by and see that good nursing care was available.

Fifty years or so ago, treatment of disease had largely been given up. Medicine had been through several centuries of athletic efforts to change the course of disease by empirical remedies — mostly the figments of fertile imaginations — like bleeding patients to the verge of shock; like blistering or catharsis; even stupefaction by alcohol which was common in the nineteenth century. Finally everyone agreed that such things did not really work or were maybe positively harmful. We had then arrived at a state of therapeutic nihilism — led forcefully by that great physician and teacher Sir William Osler. But in the mid-1930s medicine suddenly changed into effective mode. Things could be cured. Antibacterial agents for infections, vaccination against childhood contagions, virtually eliminated many lethal, frightening and ubiquitous diseases. That is when expectations in the public mind began to rise; they have never since stopped rising, yet many feel that medicine has not continued to deliver with the same dramatic force.

It is, I believe, salutory to reflect on the state of medicine just 300 years ago. Medicine in these isles was at that time a combination of ignorance, superstition and downright charlatanism —

> 'At eight o'clock on Monday of February 2, 1685, King Charles II of England was being shaved in his bedroom. With a sudden cry he fell backward and had a violent convulsion. He became unconscious, rallied once or twice, and, after a few days, died. Doctor Scarburgh, one of 14 physicians called to treat the stricken king, recorded the efforts made to cure the patient.
>
> 'As the first step in treatment, the king was bled to the extent of a pint from a vein in his right arm. Next his shoulder was incised and the area 'cupped' to suck out an additional 8 ounces of blood. After this the drugging began. An emetic and purgative were administered, and soon after a second purgative. This was followed by an enema containing antimony, sacred bitters, rock salt, mallow leaves, violets, beet root, camomile flowers, fennel seed,

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linseed, cinnamon, cardamon seed, saphron, cochineal, and aloes. The enema was repeated in two hours and a purgative given. The king's head was shaved and blister raised on his scalp. A sneezing powder of hellebore root was administered, and also a powder of cowslip flowers "to strengthen his brain". The cathartics were repeated at frequent intervals and interspersed with a soothing drink composed of barley water, licorice and sweet almond. Likewise white wine, absinth, and anise were given, as also were extracts of thistle leaves, mint, rue, and angelica. For external treatment, a plaster of Burgundy pitch and pigeon dung was applied to the king's feet. The bleeding and purging continued and the following medicaments were added: melon seeds, slippery elm, black cherry water, an extract of flowers of lime, lily of the valley, peony, lavender, and dissolved pearls. Still to come were gentian root, nutmeg, quinine, and cloves.

'The king's condition did not improve, in fact, it grew worse, and in the emergency 40 drops of extract of human skull were administered to allay convulsions. A rallying dose of Raleigh's antidote was forced down the king's throat; the antidote contained an enormous number of herbs and animal extracts. Finally bezoar stone was given. "Then, alas", said Scarburgh, "after an ill-fated night his serene majesty's strength seemed exhausted to such a degree that the whole assembly of physicians lost all hope and became despondent; still, so as not to appear to fail in doing their duty in any detail, they brought into play the most active cordial". As a sort of grand summary to this pharmaceutical debauch a mixture of Raleigh's antidote, pearl julep, and ammonia was forced down the throat of the dying king'.[2]

Such extravagances were not confined to this side of the Atlantic. George Washington, said to be a hale and hearty man in his late sixties, developed a severe sore throat, after a tiring horseback ride in the snow, on 12 December 1799. A blistering poultice was applied to his neck, he was required to gargle a mixture of vinegar and molasses, and he was bled for a total of five pints of blood. Among his last words were 'I thank you for your attentions, but I pray you to take no more trouble about me'.[3]

How have we reached today's state of art and knowledge from such a starting point? Arguably the most influential mind in promoting progress was that of Thomas Sydenham. He was alarmed by the confused and disorderly state of medicine and determined to improve it. The function of the physician, he claimed, is the industrious investigation of the history of diseases and of the effect of remedies, as shown by the only true teacher — experience. There must be a history of the disease, a description that shall be at once graphic and natural, and also a praxis or methodus medendi, which must be regular and exact, fixed, definite and consummate, by which the practice is based on a sufficient number of experiments and so proves competent to cure this or that disease.[4] In Sydenham's day, the main resource for reaching a diagnosis was the history of the illness. Examination was largely confined to inspection of the appearance of the patient. Sometimes touch was used to feel the temperature of the skin, the pulse and any obvious swellings. Occasionally, urine, stool or shed blood were examined. This provided a suspicious clientèle with an opportunity to test the doctor's fallibility by substituting someone else's urine or even a specimen from an animal. Medical textbooks of the time described how to distinguish animal from human urine by inspection.

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The eighteenth and nineteenth centuries saw a great extension of the powers of the clinician as diagnostician. Augenbugger introduced percussion and Laennec the stethoscope. Then in the second half of the nineteenth century new technologies were developed which further extended the examination to inside the patient. Technology was moving into medicine. Today there is a bewildering array of possibilities. Fibre optics offer visulisation of the stomach, duodenum, bile ducts, even joints and blood vessels. Body imaging can be effected with isotope scans, ultrasound, CT scanners or magnetic resonance. We can measure the concentration of almost any body constituent and study almost any function. Modern DNA technology allows inspection of the genetic profile of the individual. Sir Douglas Black has stated — 'The essential difference between medicine today and the medicine of a hundred years ago is that our intellectual comprehension of disease has entered another dimension. In so far as medicine ever can be a success story, the success comes ultimately from science'.[5]

Despite such an impressive scientific base for clinical practice there are those who criticise modern medicine for its excessive reliance on science and its associated technology to the detriment, it is claimed, of those aspects of medicine which are variously described as holistic, human, emphatic or simply caring. The indictment is based on a number of strands — that the pursuit of science produces cold, detached people; that preoccupation with technology destroys compassion and distracts attention from the needs of the patient; that an awareness of biological systems precludes awareness of the whole person; that preoccupation with restoring functions, relieving symptoms, and concentrating on details of specific diseases may bring about neglect of basic problems of personality, environment or lifestyle; that the concentration of investigation in hospitals overemphasises their importance in relation to the total burden of illness; and that medicine based on scientific problem solving runs away with resources which could be better spent.

The Reith lecturer of 1980, the distinguished lawyer Ian Kennedy, now a member of the General Medical Council, stated the case forcibly — 'Modern medicine has taken the wrong path. An inappropriate form of medicine has been created, in large part by doctors and medical scientists, and eagerly accepted by a willing public. The nature of modern medicine makes it positively deleterious to the health and wellbeing of the population. Please understand that it is we, all of us, who have hitched our wagon to the wrong star, scientific medicine, as our guiding light'.[6]

The public concern relating to modern scientific and technological medicine is based on at least three anxieties. The fears and concerns about *technological developments* are myriad: annihilation by the bomb, dehumanisation, unemployment, pollution, urban blight, extinction of plants and animals, disposal of waste — to name but a few. The impact of technological change on industrial and urban society is blamed for the deterioration in family life, insecurity, anxiety, alienation, boredom, the escalation of drug abuse and the incidence of mental illness. Although technological development has not always been generated by scientific research, science is the major source for the knowledge required to generate technological change, and technology is often defined as the translation into practical use of the results of scientific research. Much of today's controversy over the role of technology in our society has to do with differing opinions as to whether a new product, service or process represents an improvement or a liability, progress or decline, benefit or burden. Medicine gets caught up in this

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general discussion. Society and patients within it feel perhaps less able to exert influence in the field of medicine than in some other areas of life. The consumer of medical technology is strictly speaking not the patient, but the physician. The physician is the one who makes decisions about hospitalisation, diagnostic tests, operative procedures and the use of drugs. There is the impression in many minds that, in caring for the individual patient, the physician follows what many have called the 'technological imperative', the belief that every physician in every hospital should have available for that patient all the technologies of medicine, regardless of cost, questions of priority or the optimal allocation of resources.

This sense of remoteness from an impersonal technological world leads to the second anxiety of patients — that concerning *compassion.* Medicine was once the most respected of all the professions. Today, when it possesses an array of technologies for treating and curing diseases which were simply beyond comprehension a few years ago, medicine is under attack for all sorts of reasons. Doctors, the critics say, are applied scientists, concerned only with the disease at hand but never with the patient as an individual, whole person. They do not really listen. They are either unwilling to or cannot explain things to sick people or their families. They make mistakes in risky technology, hence the rapidly escalating cost of medical malpractice insurance.

What is it that people have always expected from the doctor? How, indeed, has the profession survived for so much of human history? Doctors as a class have always been criticised for their deficiencies. Shaw saw doctors 'just like other Englishmen: most of them have no honour and no conscience: what they commonly mistake for these is sentimentality and an intense dread of doing everything that everybody else does not do, or omitting to do anything that everybody else does. The medical profession has not a high character, it has an infamous character. I do not know a single thoughtful and well informed person who does not feel the tragedy of illness at present is that it delivers you helplessly into the hands of a profession which you deeply mistrust'.[7] What were the patients of physicians in the nineteenth century and before hoping for when they called for the doctor? In the years of the great plagues, when carts came through the streets each night to pick up the dead and carry them off for burial, what was the function of the doctor? Bubonic plague, typhus, tuberculosis and syphilis were rapidly progressive and usually fatal infections, killing off most victims no matter what was done by the doctor. What did the man do, when called out at night to visit the sick for whom he had nothing to offer in palliation, much less cure? There must have been compassion — and the oldest and most effective act of doctors — the touching. Some people don't like being handled by others. But that inhibition is not, or almost never, felt by sick people. They need to be touched, and part of the dismay in being very sick is the lack of close human contact. The doctor's oldest skill was to place his hands on the patient. That skill became more specialised and refined with time. The feeling of the pulse, the tip of the spleen, the edge of the liver. Percussion to elicit resonance or dullness over the lungs but at the same time, touch. Touching with the naked ear was one of the great advances in the history of medicine. Once it was learned that the heart and lungs made sounds of their own, and that the sounds were useful in diagnosis, physicians placed an ear over the heart and chest and listened. It is hard to imagine a friendlier human gesture. The stethoscope was invented in the nineteenth century, vastly enhancing the acoustics of the thorax, but removing the physician a certain distance from the patient. It was the earliest device of many still to come which would further distance patient from doctor. Today, the

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doctor can perform many tasks from his office without ever seeing the patient. Some have gone so far as to have computer programs taking a history and a computer print-out listing diagnostic possibilities. Instead of spending time examining the chest, a slip of paper can take the patient to the X-ray department or scanning unit and there in great detail are revealed all the internal organs. Computerised devices reveal electronic intimacies of the flawed heart or malfunctioning brain with a precision far beyond the touch or reach, or even the imagination, of the physician at the bedside a few generations back. Medicine appears to many to be no longer the laying on of hands, but rather the reading of signals from machines. Scientific medicine is here to stay. The new medicine works. It is a vastly more complicated profession. The physician has the same obligations that he carried, overworked, and often despairingly, fifty years ago, but now he must add technological expertise and precision. He must still remain the patient's advocate in time of trouble and adversity.

One of the hard things to learn in medicine, even harder to teach, is what it feels like to be a patient. In days past when serious illness was a more common experience, the doctor had usually been through a few personal episodes and had a good idea of what it was like for his patient. Many physicians in pulmonary medicine were brought up in the early days of this century and first acquired their interest in the field from having had pulmonary tuberculosis themselves. Many of the leading figures in rehabilitation had been crippled personally by poliomyelitis. It is different today. The serious and life-threatening illnesses are largely reserved for one's advancing years. No one goes through the six perilous weeks of typhoid fever any more, coming within the sight of dying every day, getting through at the end a stronger character perhaps, certainly with a different outlook on life. The high technologies which are the norm today to cope with serious disease are matters to be mastered only from lecture notes and books, and then by actual practice on patients, but few doctors have more than an imagination of what it is actually like to go through such experiences. Even the childhood contagions are mostly gone, thanks to vaccines for measles, whooping cough, chickenpox and the like. You, as today's young physicians, probably do not know what it is to have earache let alone anything more sinister. The physician therefore must continually strive to conduct high quality scientific medicine in the context of patient sympathy and understanding.

We must address these issues if we are to serve our patients and the public conscience adequately. Sir Douglas Black has well said, 'The true antithesis of caring medicine is not scientific medicine, or high technlology medicine, or hospital medicine, or academic medicine or orthodox medicine, it is quite simply "bad medicine"'.[8]

If medicine has been caught up in the general fear of science and technological developments, patients feeling a sense of distance from their physician — the third problem is the perceived *cost of modern medicine.* Society is suspicious that the escalating cost of health care is largely related to the expansion of expensive technology. The high cost and dubious benefit of high technology medicine, together with its relevance to the relatively limited field of acutely ill patients, are seen in stark contrast to the low technology, perceived low cost needs of large numbers of chronically sick and the elderly. The last Royal Commission on the Health Services declared society's position: 'The emphasis on acute and high technology medicine is being challenged and more thought is being given to the chronic sector'.[9]

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The concern of society that the balance of the allocation of health care resources should be adjusted away from high technology is widely voiced. In Kennedy's Reith Lectures he poses the major criticism that too much expensive technology is being used without due consideration of the resulting benefit, and that it often does more harm than good; that money, time and effort might be better spent on other activities. Public opinion is, however, a hard taskmaster because, as well as complaining about costs, society is expressing indignation that certain technologies are not more widely and readily available. Most often this plea relates to technologies that are generally accepted to be beneficial, such as renal dialysis and transplantation, and surgical joint replacement. Given the physician's dual role as advocate for the patient and at the same time spender of public resources, it is imperative that we examine closely the use of these resources and the costs of our activities.

THE SOCIAL MODEL

I would now like to turn your attention to another aspect of public perception of the role of the doctor in providing for the needs of society. The new terminology is interesting. The very word 'medicine', once used to describe the whole enterprise of looking after sick people, has been replaced by 'health care'. Patients are now formally known as 'consumers'; the doctors, along with hospitals and clinics, as 'providers'. The thing to be dealt with is no longer this or that disease, it is 'health'. The desired state is not just one in which disease is prevented or treated, it is a new situation called 'wellness', a destiny to which all are inalienably entitled; and this ideal condition is a lot more than freedom from disease. This is no longer the medical but the social model.

For a statement of these contrasting models, let me refer to the *Health and health policy* report of the Social Science Research Council.[10] This report lists different emphases or polarities: individual and population; treatment and prevention; cure and care; hospital and community; acute and chronic. The authors clearly imply that the physician is far too interested in individual patients who require treatment, meaning curing acute disease in hospital. The opposing and, they claim, society's demand is for population health by prevention and care of chronic problems in the community. You may think that stated in those terms the two positions are extravagant nonsense. Yet I quote from an official government report and it is now incorporated in the policy of transfer of resources from the acute sector to other activities.

Attempts to sort out the basic ideas and issues concerning the provision of health care are not new, they go back to the beginning of our Western civilisation. They are found in Plato's *Republic* where distinctions were made between acute treatment, chronic treatment and preventive medicine. Plato argued that a proper role for medicine was to care for wounds and some seasonal maladies, but that medicine which focused on the treatment of illnesses due to sloth, personal excesses, or poor personal regimen was an index of a society's disgraceful state of luxury or of poor education. He held that the ordinary reasonable person would in the ideal state expect treatment of his acute, not his chronic diseases. Socrates gave the example — 'A carpenter when he is sick expects his physician to give him a drug which will operate as an emetic on the disease, or to get rid of it by purging or the use of cautery or the knife. But if anyone prescribes for him a long course of treatment with swathings about the head and their accompaniments, he hastily says that he has no leisure to be sick, and that such a life of preoccupation

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with his illness and neglect of work that lies before him is not worth living. And, thereupon, he bids farewell to that kind of physician, enters upon his customary way of life, regains his health, and lives attending to his affairs — or if his body is not equal to the strain, he dies and is freed from all his troubles'.

Individual and population medicine

The traditional image of the doctor is of someone who responds to appeals for help from those who are ill, or from their relatives. This must be a demand-led service, since only an individual can articulate a demand. Criticism of the conventional medical services comes mainly from two main sources — those who consider the present degree of emphasis on physical and social environmental factors to be inadequate, and those who believe that the preoccupation with individual medicine leads to the neglect of the particular needs of disadvantaged groups, such as the elderly and the physically and mentally handicapped. This latter area has promoted 'client-orientated medicine' — the term client to me depersonalises the individual member of the group and I think there are distinct dangers in segregation and loss of identity. This may be further compounded by unnecessary institutionalisation.

Acute or chronic sectors

Growth in the acute hospital services has been more rapid, since the inception of our health service, than growth in the provision for chronic disability. This is not bad planning, but rather a response, and an extremely effective response, to perceived need. To make good the shortfall in the chronic sector without 'new money' but rather depletion of the acute sector is an extremely doubtful course of action and has certainly no indication of being actually beneficial. It must not be forgotten that acute treatment can prevent chronic disability — for example, hip joint replacement and hernia repair. Such acute treatment is only effective if the resources are available, and that at the right time. The artificial gap between acute and chronic sectors is bridged by the patient. We must strive for good communication between different agencies rather than artificial separation of functions — otherwise, the patient wil suffer.

Hospital or community

Present-day conventional wisdom is that there should be a shift of resources towards community care which, in a time of financial constraint, means away from the hospital. A variety of reasons may be produced to support this position: compassion for the most disadvantaged members of the community, a belief that it will somehow be cheaper to look after people in the community than it is in hospital and a predilection for the use of less trained staff as compared with specialised professionals. These concepts have still to be tested and almost certainly are too simplistic — what of the cost to the community, borne as it is likely to be very largely by individual families at an unknown social cost? We are in danger of forgetting that the hospital is, in fact, part of and serves the community; the hospital and community services are not mutually exclusive: they are interdependent. Muir Gray has well described care as a four-box system.[11] We tend to forget box 1 — self care — and the informal care of family, friends and volunteers which is box 2. It is only when these cannot cope that box 3 — community care — and box 4 — hospital — are required. If cost were the only determinant of resource allocation, then we would opt for the cheapest: box 1 — self care. By deduction, we would need no health service and also stop

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helping one another — absurd but, nevertheless, the logical conclusion using present-day wisdom in health service resource planning. No, in the real world, priority must be given to appropriateness of care, the cost being considered in context, not elevated to an absolute criterion of decision. The ultimate test of any health service lies in what it does for people. In a good service the actual patient may spend time in hospital, or being cared for in the community, according to need, not according to value judgements on the importance of hospital versus community. Easy transfer from one to the other is the proof of any integrated, patient-sensitive service.

Treatment or prevention

All would agree that the health of a community may be improved in many ways, not only by the activities of health professionals but also by social and economic changes that result in better nutrition, smaller families, less overcrowding and better education. It is now commonly argued that the burden of disease and the cost of services could both be reduced by redistribution of funds in favour of prevention. This opinion is based on many factors. One is the very success of curative medicine which has been so great that cures are taken for granted and clinical medicine is now blamed for the remaining failures. The increasing scope, complexity and cost of curative services has been so great that Government is on record as saying — 'Curative medicine may be increasingly subject to the law of diminishing returns'. The public experience of the hazards of drug treatment has also strengthened the lobby for prevention. Such is this enthusiasm that it is now fuelling an explosion of paperback bestsellers — *Diet for a strong heart, The cancer prevention diet, How to double your vital years, Healing with yoga therapy and nutrition* and, to go one better, *Creating health: beyond prevention toward perfection.* Before we become servants of this particular master it is important to ask some particular questions. If prevention is seen as an alternative to scientifically based treatment then it must also be capable of surviving the rigour of scientific scrutiny, not just acquiescence to the old adages, 'prevention is better than cure', 'an apple a day', etc.

The undoubted success story in preventive medicine must be immunisation. On a worldwide scale, smallpox has been eradicated. In 1940, 46,000 cases of diphtheria were reported in England and Wales with 200 deaths. In the past 10 years there have only been occasional cases and those in non-immunised individuals. In 1955 there were 4,000 cases of paralytic poliomyelitis; now we have less than 10 per year. For measles, the picture is more unsatisfactory. In 1982, over 100,000 cases were reported with 20 deaths; in 1984 there were still 60,000 cases, due largely to only 63% of children being immunised. For whooping cough the picture is very depressing. Because of adverse publicity in the 1970s relating to vaccine-induced encephalitis, vaccination rates have fallen alarmingly. Now we see 65,000 cases with 15 deaths per year from the disease. These risks far outweigh the most pessimistic estimates of vaccine damage — at most, one in 350,000 children vaccinated. The failure to exploit the benefits of immunisation raises immediately a fundamental question in any preventive programme — what is the degree of personal commitment in the community?

Leaving aside the confusing phenomenon that life expectancy is steadily increasing, there are certain areas that merit our attention. More than half of the lives lost under 85 years of age are now due to death between 55 and 74 years and only 11% to death in infancy and childhood. More than half at all ages are due to neoplasms and ischaemic heart disease. Clearly, therefore, any major advance

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now requires an attack on these main killing diseases of middle age. If one looks at the major causes of increased mortality in the past 20 years, however, the reasons are fairly obvious — increasing use of alcohol, addictive drugs, road traffic accidents, cigarette smoking by women, industrial exposure to asbestos (particularly in men), and a greater number of sexual partners. Again, a question of human behaviour.

Human behaviour and health promotion

In any preventive programme then there must be evidence of the ability to modify human behaviour on a large scale — not just in a small sector of society who are already particularly dedicated. We do well to remember the words of Oscar Wilde — 'Man as a rule finds it easier to depend on healers than to attempt the much more difficult task of living wisely'. Any success, therefore, must take account of the public perception of risk and health priorities. The Active Health report recently published by the Canadian government makes interesting and, at the same time, depressing reading:[12] 88% of citizens surveyed assessed their health as good, very good or excellent. How then do you convince people to improve their health if they already feel that their health is good? Substantial numbers in this category smoked, drank excessively and used drugs. However, nearly two out of three respondents indicated that they had done something in the previous year to improve their health. Increasing exercise was the most frequent change, followed by improved eating habits. Weight loss and stopping smoking were cited by a small minority and reducing alcohol and drug use were cited by less than two per cent. It was clear that the public response was to undertake new positive activities rather than give up old bad habits. This is precisely the opposite of most health promotional and preventive programmes. The success therefore of any programme must account for these two types of human behaviour. When people are urged to avoid a health risk, we are usually asking them to give up some well established habit like smoking. But when they are urged to protect or improve their health, they more often than not are being asked to acquire some new behaviour like controlling weight. The strategies used to instigate new behaviour must often be very different from those used to break bad habits. Even when convinced of the need for action, few actually intended to take it. Of those who said they should improve eating habits, only half intended to do so; of those who said they should stop smoking, only half intended to do so. The gap between what people say they should do and what they actually intend to do becomes even more striking when we relate it to health risk behaviour. Of regular smokers, a third indicated that increasing exercise was the thing they intended to do to improve their health — not stop smoking. Yet the value of exercise is debatable while the dangers of smoking are incontrovertible. Chesterton was less than convinced on the matter of exercise — he claimed to get his exercise by attending the funerals of his more energetic friends!

In addition to the problems of behaviour modification, another major problem exists. It is perhaps not sufficiently realised that measures which might benefit a community, for instance by reducing blood lipid levels to lower the incidence of coronary artery disease, may offer little or no benefit to the individual. We are all familiar with the grieving relative whose departed never smoked or drank, took regular exercise, ate a healthy diet, was not overweight, had regular check-ups, yet died of heart disease. To the individual, therefore, there is no guarantee that a change in life-style will protect against heart disease, cancer or anything else. Conversely, we have all come across people who flouted all the rules of healthy

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living and outlived their more cautious contemporaries. The centenarian celebrating his 100th birthday is reputed to have said, 'If I'd known I was going to live this long I'd have taken better care of myself'.

Regular screening of health individuals is often advocated, but the case for the annual check-up, so popular with the business executive, has little medical support. For selected age groups of women there is a good case to be made for regular checks for breast or cervical cancer. There is considerable controversy about screening at any age for high blood pressure, not only because of the logistical problem of the procedure but because of the indecision about what to do with the result. Some make extravagant claims for prevention — and I quote Kennedy again — 'We must concentrate much more on primary preventive medicine. If this means, as it inevitably must, that some aspects of modern curative care must be neglected or abandoned, so be it. The benefits to be gained outweigh any loss'.[6] I doubt, however, if anyone has a clear idea of the relative returns to be expected from investment in any of these fields.

CARE AND PREVENTION — TWO MASTERS

Rather than see curative procedures pitted against prevention, I think it is much more satisfactory to see the doctor's responsibility bridging both philosophies. The obstetrician has served both masters admirably for many years. In a case of eclampsia he would ask 'What went wrong?'. The occurrence of a preventable disaster is a threat to his professional reputation, for an obstetrician accepts prevention as an integral part of his normal professional responsibilities. Antenatal care is, in fact, largely preventive, and integration of prevention with treatment has led to a marked fall in maternal and perinatal mortality rates. Is this not a model for us all? Rather than separation, let us bring therapeutic and preventive roles together and enlarge our horizon from feeling that the care of the sick is our only responsibility.

Appreciation of the cost factor in medical care is not new. Sir William Petty (Professor of Anatomy at Oxford) in his plan of 7 October 1667 'of lessening ye plagues of London' estimated the cost-effectiveness of transporting people outside London for three months to be £84 for every £1 expended. We are in a dilemma because the compassionate physician and the citizen, when a patient, desire that everything be done and no expense spared to help the sick and suffering. On the other hand, the public who pay the bills through taxation or insurance demand that costs be contained.

There are those who would submit that cost considerations are unethical: E H Loewy has written: 'Of late an increasing number of papers in this and other journals have been concerned with "cost-effectiveness" of diagnostic and therapeutic procedures. Inherent in these articles is the view that choices will be predicted not only on the basis of strictly clinical considerations but also on the basis of economic considerations as they may affect the patient, the hospital, and society. It is my contention that such considerations are not germane to ethical medical practice, that they occupy space in journals that would be better occupied by substantive matter, and that they serve to orient physicians toward consideration of economics, which is not their legitimate problem . . . .

'It is incumbent on the physician (especially in a critical situation) to practice not "cost-effective" medicine but medicine that is as safe as possible for that patient under the particular circumstances. Optimization of survival and not optimization of cost effectiveness is the only ethical imperative. To select diagnostic tests on

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the basis of cost effectiveness is a deliberate statistical gamble; to use diagnostic tests in an unthinking medical fashion is poor medicine, not because of cost but because unthinking medicine is dangerous for the patient. Ethical physicians do not base their practices on the patient's ability to pay or choose diagnostic and therapeutic procedures on the basis of their cost. It may be argued that the welfare of society is threatened by escalating medical costs; indeed, that argument at first appears to introduce a dilemma. Yet a large proportion of our ills are due to smoking, heavy drinking, and overeating, and the consequences of these indulgences consume a large portion of medical-care dollars. It is unfair to deprive those who have not been overindulgent of the best medical care while allowing the overindulgence of others to consume the available money, Furthermore, our society clearly has money to spend on luxuries and baubles. A physician who changes his or her way of practicing medicine because of cost rather than purely medical considerations has indeed embarked on the "slippery slope" of compromised ethics and waffled priorities'.[13]

This standpoint would be all very well if the citizen could determine the budget allocation to the NHS and had the ability to change behaviour. We, however, live in a different situation where neither is successful. To suggest withholding treatment from patients because of their misdemeanours is attractive but contrary to the basic ethos of doctoring. The medical profession in its more political mood tends to blame a lot of the financial problems on administration, where indeed there has been a great expansion that is of doubtful value. For example, the number of non-medical employees at regional, area and district level in England and Wales earning £5,000 per annum or more increased from 700 to 4,800 at the time of reorganisation in 1974.

There are obvious areas that contribute to the escalation in costs of the Health Service which are being addressed by the profession but much still needs to be done. The cost of drugs and appliances in England and Wales was £596 million 10 years ago, which exceeded the total cost of medical practitioners' salaries. Ten per cent of this went on slimming pills, tranquillisers and cough medicines, often prescribed because of patient pressure but probably totally ineffective, if not dangerous. New operations or techniques do not have to pass the Committee on Safety of Medicines; otherwise, for example, we would not have witnessed the adoption 15 years ago of gastric freezing for duodenal ulcer disease. It took seven years for properly controlled trials to show that it was useless. By that time £2·5 million had been spent on apparatus alone in the USA. We are just beginning to develop enough rigour in our practice properly to assess treatments, and in this the double blind clinical trial has been a milestone in methodological history.

QUALITY OF CARE

There is a new dimension which I believe needs to be brought onto the agenda — namely, quality of care. The supreme challenge today is to contain costs without lowering the quality of care. Some say this can't be done. We have already learnt that within limits this trade-off need not exist. In fact, the lower-cost way may be the high-quality way. A high volume of a product in a hospital not only yields economies of scale, it results in lower rates of post-surgical mortality and complications. We must grapple with the problem that the amount spent per case on a given condition often bears no relation to the outcome for the patient. What is quality care? Instinctively, I must suggest that it is about people. But quality in health care is an elusive entity and can mean all things to all observers. I believe

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that it can be separated into numerous components. Some are measurable, some are not. The aspect which attracts most attention from economists and public policy makers has to do with technical, diagnostic and therapeutic procedures. We now live with performance indicators and norms for things like bed turnover and length of stay. This is all very impersonal and, while we strive for efficiency, we may further depersonalise the caring doctor/patient relationship. It is this aspect which is more difficult to study — the process of caring for the patient, the interpersonal, supportive and psychological aspects of the physician/patient relation — and which is the component of quality that most frequently separates the fulfilled physician, with a busy practice of satisfied patients, from others. It is the factor that gives rise to satisfaction on the part of the doctor and patient alike, accompanying and sometimes replacing the cure. There comes a point when increased efficiency or intensity of work becomes counterproductive in so human an activity as patient care, particularly in acute illness. The stress on staff can become intolerable if all the patients in the ward are seriously ill and morale may fall if patients are discharged so soon after treatment that their recovery cannot be appreciated by the staff. For patients and relatives the speed of passage may dehumanise their hospital experience, they have a sense of being processed. The physicians, having responded to the call for greater efficiency, are likely to end up being accused of not caring enough, of being concerned only with episodes of illness, and of having only a transitory relationship with patients. The quality of care as a measure in the doctor/patient relation is inversely proportional to the frequency of malpractice litigation. It is difficult to assess, most frequently ignored by health-care planners, economists, and theoreticians, and is not and cannot be addressed by mechanisms such as analysis of performance indicators. But it is not ignored by consumers, and is certainly the most visible, most easily perceived and most appreciated of the quality components by the patient. It is the loss of this component of quality that is most feared by doctors and by patients in the current social and economic struggles over the nature of the health care system of the future. Yet it is the most fragile and easily damaged characteristic of good medical care, and the characteristic that the medical profession, working with those responsible for formulating public policy, has the greatest responsibility to maintain.

Someone once said that variation in practice style is simply the evidence that good medical practice does not mean the same thing to different doctors! Nor, I would add, to different patients. And this is one very important reason that patients try to find a doctor who suits their own needs and style. Any system that truly aspires to high quality must accommodate personal preferences. They lie at the very heart of the doctor/patient relationship in an open society like ours. A purely data-driven approach to treatment that would take no account of patients' needs and wishes would indeed amount to cookbook medicine, and we would be right to reject it. We should put more, not less, emphasis on what patients expect as the outcome of their treatment.

In addition to introducing quality thinking as a dimension in our practice, we must also begin to understand the areas of real cost within the service. The public perception is that we spend excessively on technology. The finger is pointed at high cost techniques and procedures but they must be seen in perspective. It has been estimated that a 50% reduction in four major activities — CT scanning, renal dialysis, fetal monitoring and coronary artery bypass grafts — would save less than 1% of the medical budget. Far greater savings would be achieved if

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doctors paid more attention to the wasteful use of apparently cheap and simple investigations. A study reported some years ago showed that the number of laboratory tests per case used in treating uncomplicated appendicitis rose from five in 1951 to 30 in 1971. Jan Brod wrote in 1977 about the explosion in the number of tests done on patients without any evidence of benefit in their management.[14] He estimated that biochemical screening of 200 consecutive medical outpatients had yielded no significant benefit but had cost DM12,400. You can find equally convincing reports on the wasteful use of X-rays, particularly of skull, spine and abdomen, for inadequate clinical reasons and for the geriatric 'ante-mortem' barium enema. One radiologist has entered the literature with the title *Department of inappropriate investigation.*[15] On the other hand, the CT scanner has been shown to be both accurate and cost-effective, particularly in neurological diagnosis. Balancing the cost of the machine and staff against the reduction in other invasive investigations such as arteriograms and air studies, and a reduction in waiting lists of patients, it has been shown that one unit saved £36,000 in one year.[16]

If we are to practise the best medicine for our patient and act as responsible custodians of the public purse we must look critically at how we use laboratory sciences, radiological tests and technical procedures. We are quick enough to develop and apply new techniques but not in any hurry to evaluate them rigorously; eager to add new procedures but slow to reject those of marginal value and sometimes reluctant even to eliminate those that are obsolete. We must maximise the important scientific advances for the benefit of our patients.

If we fail to use resources efficiently we will further deprive our society of health care. This is already seen as a result of political decisions but must not be compounded by professional profligacy. In the response to budget limits, we already see a perversion of provision. Lifesaving treatment is curtailed less than that which improves the quality of life. Because of the ease of deciding not to buy new equipment, as opposed to refusing to care for the sick, treatment dependent on costly equipment is being reduced more than that dependent on staff time and ordinary supplies. The special terror that cancer arouses means that treatment is curtailed relatively little. New treatments are slower in being developed since they have to compete with established services for available resources. Diagnostic procedures about which the public know little are supplied less than those about which the public are better informed. There is development of crisis management rather than planning. If we are to be serving both our patients and society we must engage in this dialogue.

In introducing another teaching session this morning my hope for our students is that they will acquire the knowledge and skills needed for the highest standards of medical practice. For, after all, the greatest unkindness to our patients is medical incompetence. I trust that they will also develop attitudes which will be responsive to the demands of both the individual patient and society. I wish you all success for this demanding but, I believe, exciting and rewarding future.

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